

## Welcome to the 2022 Judges Revalidation & Currency Exam

All IAC Judges must pass the R&C exam each year to remain a current IAC Judge.

The intent of the exam is educational, not to stump you. Each question includes a hint or hints, so we recommend taking the exam with a copy of this year's [Official Contest Rules](#) at hand. For those who prefer to work on the exam offline, a PDF version of the exam is also provided, although you're still required to enter your answers here on the web site.

### NOTES:

- Please read each question carefully. As with judging, small details matter.
- While most questions ask for the correct or most appropriate answer, a few will ask which answer is **INCORRECT**.
- Unless otherwise stated, assume that all questions pertain to you as a Grading Judge.
- Unless Gliders are mentioned explicitly, assume that all questions pertain to Power aircraft.

--> If you do not achieve a passing score, please contact the Chair of the Judges Program, judgeschair [at] iac.org (DJ Molny) to go over any problem areas before you take the test again.

Thank you for your effort and enthusiasm. Aerobatic competition would not be possible without you!

## Question 1

Free Programs are not valid unless they are signed by an IAC Judge who was current at the time of the sign-off.

(Hint: Rule 23.7.1)

Choose one

- True
- False

## Question 2

While grading a flight, you see the competitor fly all of the figures on the program, immediately repeat the final three figures, and then Signal with a wing-wag. You should:

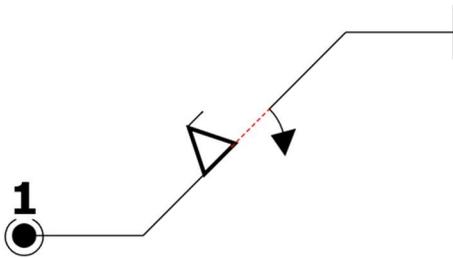
(Hint: Rules 14.5.3 & 26.3.1(b))

Choose one

- Do nothing -- the Performance ended when the competitor flew the last figure on Form B/C
- Change your score for the last non-HZ figure to HZ with the notation "*Added Figures*"
- Change your scores for the final three figures to HZ with the notation "*Added Figures*"
- Bring the matter to the Contest Jury for adjudication

### Question 3

While judging the figure below during a Glider flight, you observe that the line after the rolls is about 25% shorter than the line before the rolls.



The proper deduction is:

(Hint: Rule 34.20.4.1)

Choose one

- No deduction
- 1 point
- 2.5 points
- At the judge's discretion, as long as they are consistent.

### Question 4

As you prepare to grade a Free program, you notice that the "Presentation K" box is blank on the competitor's Form A. You should:

(Hint: Rule 23.8.1, [2022 Approved Rule changes](#) - item 2022-19)

Choose one

- Point this out to the Chief Judge and recommend that he recall the competitor.
- File a protest with the Contest Jury following the flight.
- Have a private conversation with the competitor about this discrepancy at the earliest opportunity.
- Do nothing. Presentation K is not required in this situation.

## Question 5

You observe a Power Primary competitor begin a loop from an altitude that is obviously above 3500 feet AGL and close to the judges, making it very difficult to evaluate the figure. You should:

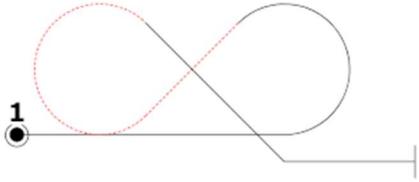
(Hints: Rules 13.5.1, 27.15.1, 35.13.3)

Choose one

- Ignore the extra altitude because it increases the safety factor
- Instruct your Recorder to write "HIGH" in the Remarks column of the Form A
- Deduct two points because it is not possible to properly grade the figure
- Make a mental note to deduct from the Presentation score
- Answers B, C, and D

## Question 6

While waiting for an Unlimited competitor to begin their Performance, you see them dive into the box and -- without Signaling -- fly a 7.8.1.1 "Inside-Outside 8" as depicted below. The first figure on their sequence is a hammerhead. You should:



(Hint: Rule 14.3.2)

Choose one

- Mark Figure 1 as HZ with the notation: "wrong figure".
- Assume this a warm-up figure and do nothing.
- Tell the Chief Judge that the pilot started without signaling.
- Mark Figure 1 as "A" for Average.

## Question 7

A competitor completes their Performance in inverted level flight, as drawn on the sequence. They roll upright and then wing-wag. You should:

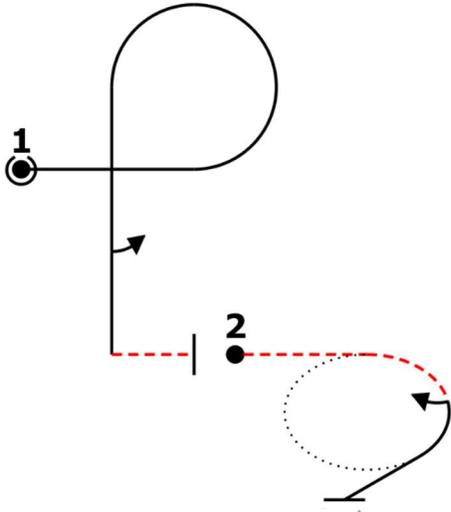
(Hint: Rule 14.5.4)

Choose one

- Change your score for the last figure to HZ because of the added half-roll
- Do nothing
- Downgrade the Presentation score
- Tell your Recorder to write in a provisional score for the half-roll

## Question 8

A competitor is supposed to fly the following figures:



However, they perform a  $\frac{3}{4}$  roll on the downline of Figure 1, finishing inverted and 90 degrees off-heading. You see the competitor roll upright and then wing-wag. You should:

(Hint: Rule 15.1.3)

Choose one

- Award a HZ to Figure 1 with the notation "*wrong figure*"
- Award a HZ to Figures 1 and 2 with the notation "*wrong figure*" for both
- Award a HZ to Figure 1 with the notation "*wrong figure*" and award a HZ to Figure 2 with the notation "*added figure*"
- Award a HZ to Figure 1 and "A" for Average for Figure 2

## Question 9

A competitor successfully completes Figures 1 through 9 and then takes an Explicit Interruption. After signaling a restart, they repeat Figures 8 and 9, and then finish the sequence as drawn. You should:

(Hint: Rules 15.1.5, 26.5.2)

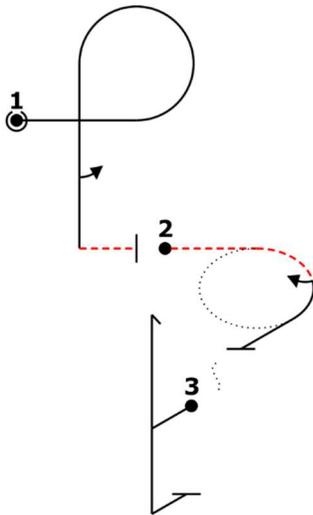
Choose one

- Ignore the repeated Figures 8 and 9, and resume scoring on Figure 10
- Award a HZ to Figure 8 with the notation "*added figure*", ignore the repeated Figure 9, and resume scoring on Figure 10
- Award a HZ to Figure 9 with the notation "*added figure*" and resume scoring on Figure 10

- Award a HZ to Figure 10 with the notation "*added figure*"

## Question 10

You are grading a competitor who is supposed to fly the following figures:



However, they perform a  $\frac{3}{4}$  roll on the downline of Figure 1, finishing upright and 90 degrees off-heading. You see the competitor turn 90 degrees, roll inverted, and begin Figure 2 in the proper direction. You should:

(Hint: Rule 15.2.1)

Choose one

- Award a HZ to Figure 1 with the notation "*wrong figure*"
- Award a HZ to Figures 1 and 2 with the notation "*wrong figure*" for both
- Award a HZ to Figures 1, 2, and 3 with the notation "*wrong figure*" for all three
- Award a HZ to Figures 1, 2, 3, and 4 with the notation "*wrong figure*" for all four

## Question 11

Just before a competitor begins a Free Program Performance, you notice that their Forms B and C are not consistent with each other. What do you use to evaluate the figures?

(Hint: Rule 21.4)

Choose one

- The figures as they are drawn on Form A
- The Aresti Aerobatic Catalog Number as it appears on Form A
- The figures as they are drawn on the form that is appropriate for the official wind (B or C form)
- Mark any inconsistent figure(s) as "A" for Average and notify the Chief Judge after the flight.

## Question 12

While grading competitors, you must:

(Hint: 26.1.1)

Choose one

- Ignore purely stylistic differences such as slow graceful flying vs fast-paced
- Do your best to avoid any preconceptions about the competitor or their aircraft
- Avoid the temptation to adjust your scores based on the difficulty of the figures
- All of the above

## Question 13

A competitor flies a figure with several major errors in heading and flight path, and you award a score of 0.0. What should you tell your Recorder to put in the Remarks column?

(Hint: 26.2.2)

Choose one

- A score of 0.0 means deductions of ten or more points by definition, so there's no need to explain
- "*Lousy figure*"
- "*Numerous angular errors*"
- "*Unscorable figure*"

## Question 14

A spin is over-rotated by 90 degrees. The correct mark is:

(Hint: Rule 26.3.1(c))

Choose one

- 0.0
- HZ

## Question 15

A competitor flies a 45 degree upline that is 15 degrees too steep with a snap that is over-rotated by 45 degrees. The figure finishes 30 degrees off heading. The correct mark is:

(Hint: Rule 26.2.1(a))

Choose one

- 0.0
- HZ

## Question 16

A spin is observed to not autorotate. The correct mark is:

(Hint: Rules 26.3.1(d), 28.24.4)

Choose one

- 0.0
- HZ

## Question 17

A tailslide in a Power aircraft does not slide backwards by at least half of the fuselage length. The correct mark is:

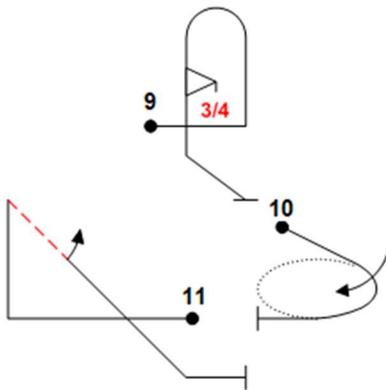
(Hint: 28.9.3)

Choose one

- A. 0.0
- B. HZ

## Question 18

The competitor was to fly the figures shown below



The Judges see the competitor fly figure 9 as drawn on the sequence form. Then you see the competitor fly a Shark's Tooth (aka Wedge) on the Y-axis. The competitor then wags their wings to signal an explicit interruption. The competitor re-enters the box on the X-axis, flying from right to left as seen by the Judges, wings wags, and flies a Shark's Tooth. You should:

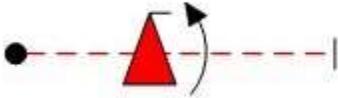
Hint: 26.3.1; 26.5

Choose one

- Award a HZ for replacing the Figure 10 rolling turn with the Y-axis Shark's Tooth and award a numerical grade for Figure 11 for the second execution of the Shark's Tooth.
- Award a HZ on Figure 10 for skipping the rolling turn, award a HZ on Figure 11 for flying the Shark's Tooth on the wrong axis, ignore the second execution of the Sharks' Tooth, and resume grading on Figure 12 (not shown).
- Award a HZ on Figure 10 for skipping the rolling turn, award a HZ on Figure 11 for flying the Shark's Tooth on the wrong axis, award a HZ on Figure 12 (not shown) for adding the second Shark's Tooth, and resume grading on Figure 13.
- Ask the Chief Judge to call a conference to review what happened.

## Question 19

Flying the figure shown below, the competitor over-rotates the negative snap by 15 degrees, pauses briefly, then performs the aileron roll and finishes the figure wings level. As a result, the aileron roll only rotates 345 degrees. What is the appropriate deduction?



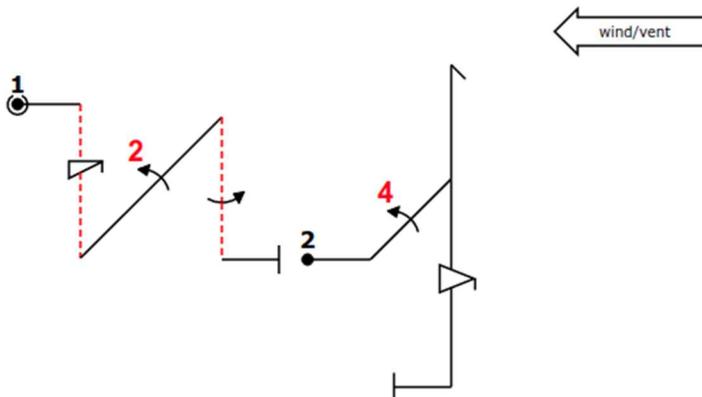
(Hint: 26.6.2)

Choose one

- Three points for over-rotating the snap
- Four points: three points for over-rotating the snap and one point for the pause
- Six points: three for over-rotating the snap and three for under-rotating the aileron roll
- None of the above

## Question 20

A competitor is flying the following figures:



As Figure 1 progresses, you notice that the aircraft is nearing the upwind edge of the box. The competitor pulls directly from the downline of Figure 1 to the first line of Figure 2 without drawing a horizontal line. You are forced to look far to the right but you still have a good view of Figure 2. You should:

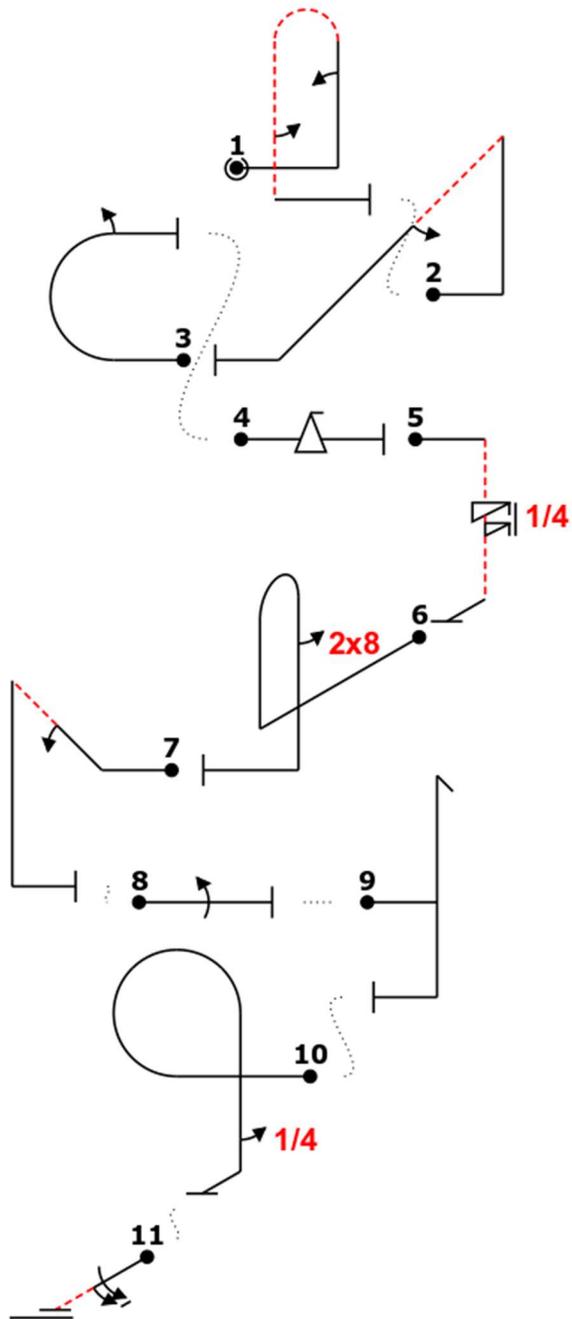
(Hint: Rules 26.7.1, 27.15.1, 29.3.1(c))

Choose one

- Deduct one point from both Figure 1 and Figure 2 for "*no line between*"
- Make a mental note to deduct from the Presentation score
- Deduct two points from Figure 2 because it is so far out of position
- Answers A and B

## Question 21

The competitor flies the following sequence as drawn until exiting figure 6 going upwind. The competitor proceeds to fly the rest of the sequence with no interruptions.



The judges must:

(Hint: 26.8.1, 26.8.3)

Choose one

- Hard Zero (HZ) figure 6
- Hard Zero (HZ) figures 6, 7, 8, 9, and 10
- Hard Zero (HZ) figures 6 through 11
- Grade all the figures since turns from the Y axis are non-directional

## Question 22

A competitor flies the figure shown below:



You observe the nose pitching towards the aircraft canopy but as the aircraft reaches the inverted flight attitude, continuing to rotate, the aircraft nose appears to have returned to the original flight path and the tail is no longer appearing to rotate off-axis in a corkscrew motion. The aircraft continues this on-axis rotation until it returns to wings level flight. The highest score that you could award for this figure is:

Hint: 28.22.1; 28.22.7; 26.3.1-c

Choose one

- 10.0
- 0.0
- 5.0
- HZ

## Question 23

Flight path is:

(Hint: Rule 27.1.1)

Choose one

- The attitude of the aircraft relative to the horizon

- The trajectory of the airplane's center of gravity
- Compared with the true horizon for horizontal flight
- Answers B and C

## Question 24

The aircraft Zero Lift Axis is:

(Hint: 27.2.1)

Choose one

- An imaginary line from the aircraft spinner to the elevator
- An imaginary line from the aircraft spinner to the tailwheel
- Varies depending on whether the aircraft is upright or inverted
- A function of the wing's Angle of Incidence relative to the fuselage

## Question 25

For powered airplanes, all 45° lines are judged:

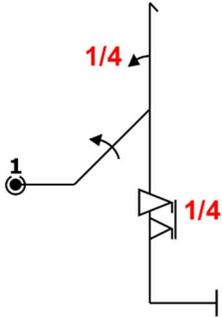
(Hint: Rule 27.4)

Choose one

- The aircraft's flight path relative to the horizon
- The airplane's flight path relative to the vertical attitude
- The airplane's Zero-Lift Axis relative to vertical and should be corrected for the effects of wind
- The airplane's Zero-Lift Axis relative to vertical and the effects of wind should be ignored

## Question 26

A competitor flies the following figure:



You observe a very slight under-rotation on the first roll, wings yawed 5° from level after the second roll, and a 10° over-rotation on the third roll. The appropriate deduction for these faults is:

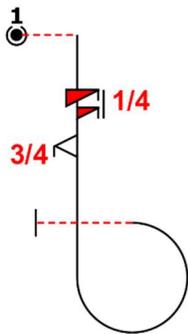
(Hint: Rule 27.6.1)

Choose one

- 4 points
- 3.5 points
- 3 points
- 2.5 points

## Question 27

A competitor is expected to fly the following figure:



You must award a HZ unless you see:

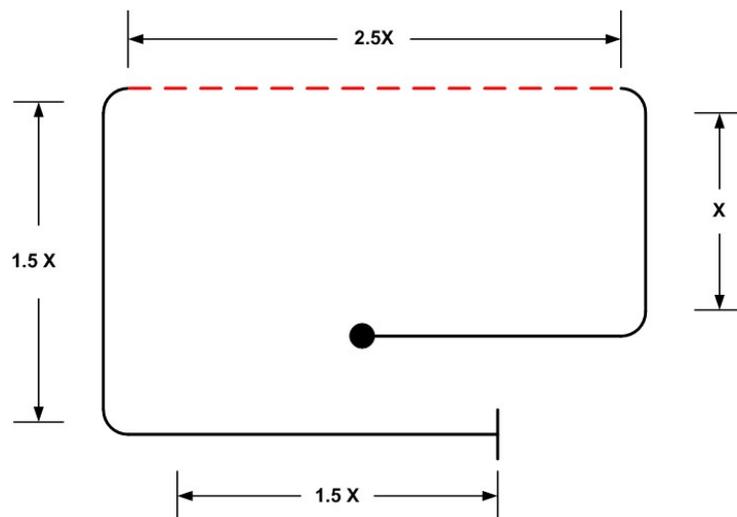
(Hint: 27.8.4)

Choose one

- The yaw direction of the spin be opposite to the yaw direction of the snap roll
- The roll direction of the spin be opposite to the roll direction of the snap roll
- The roll direction of the spin be the same as the roll direction of the snap roll
- A or C

## Question 28

A competitor flies a square loop that looks like this:



How many points should you deduct for the varying line lengths?

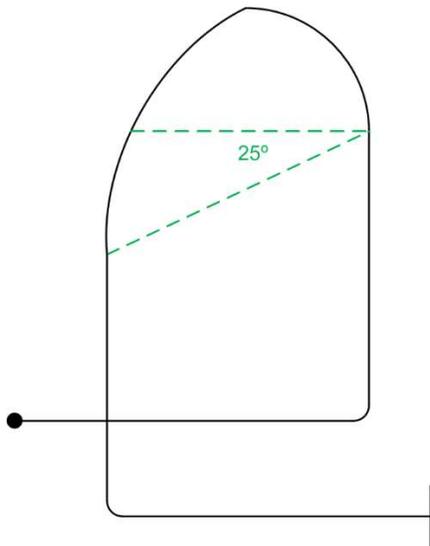
(Hint: Rules 27.9.4, 28.12.2)

Choose one

- 5.5 points
- 5.0 points
- 4.5 points
- 4.0 points

## Question 29

A competitor flies a Humpty Bump with a top radius that has a perfect first quarter but the second quarter is "*pinched*" and "*capped low*":



You **must** deduct:

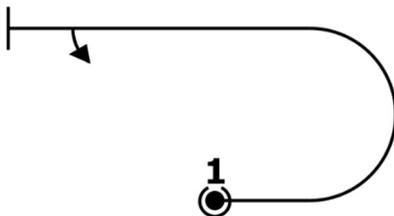
(Hint: Rules 27.10.2, 27.10.4)

Choose one

- 1 point
- 2 points
- 5 points
- Any of the above, as long as you are consistent

## Question 30

A competitor flies an Immelman (half-loop up + half-roll) like this:



How many points should you deduct for the roll placement?

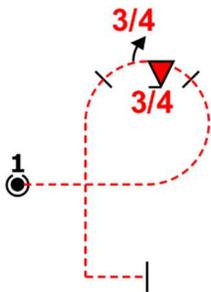
(Hint: Rule 27.11.2)

Choose one

- 0 points
- One point
- At least one point
- Any amount, as long as you're consistent

### Question 31

A P-Loop is flown with a roll combination consisting of a  $\frac{3}{4}$  Negative Snap Roll and  $\frac{3}{4}$  Slow Roll at the apex of the looping segment.



You see roll combination begin  $15^\circ$  before the apex of the looping segment and finish  $25^\circ$  past the apex of the looping segment. The pause between the two roll elements is observed to be exactly at the apex of the looping segment. You should award a downgrade of:

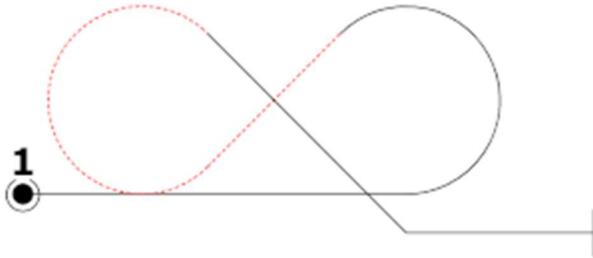
(Hint: Rule 27.12.3)

Choose one

- Zero points
- 1 point
- 1.5 points
- 2.0 points

## Question 32

A competitor flies an "inside-outside eight" (Aresti 7.8.1.1):



You notice that the second radius is half the size of the first. Under the rules for grading radii, you **MUST** deduct:

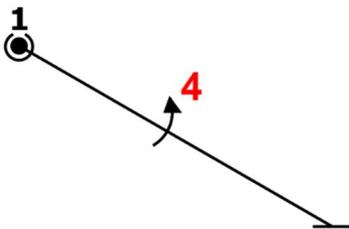
(Hint: Rules 27.13.2, 27.13.4)

Choose one

- Zero points
- 2 points
- 5 points
- 0.5 points or more, and be consistent across competitors

## Question 33

A competitor flies the following figure:



You notice that the aircraft's heading is  $5^\circ$  upwind relative to the Y axis, and it is drifting downwind. You should:

(Hint: Rules 27.5.2, 27.14.1)

Choose one

- Not deduct for either the heading or the downwind drift
- Deduct at least 0.5 points for the downwind drift
- Deduct 1 point for the heading deviation
- Deduct 1 point for the heading deviation and at least 0.5 points for the downwind drift

## Question 34

A competitor performs a loop on the X-axis while flying directly over the judges' heads. As a Grading Judge, you should:

(Hint: Rule 27.15.1, 29.3.1(c))

Choose one

- Score the figure as best you can
- Score the figure as best you can and make a mental note to deduct from the Presentation score at the end of the flight
- Score the figure as best you can, deduct two points because the figure cannot be properly graded, and make a mental note to deduct from the Presentation score at the end of the flight
- Tell your recorder to mark the figure as "A" for Average

## Question 35

A competitor flies a 360° rolling turn with 4 rolls to the outside, starting from upright. You see the aircraft pass through the upright wings level attitude at 85°, 190°, 265°, and 360° of turn. Assuming no other defects, the appropriate downgrade is:

(Hint: Rules 28.6.4, 28.6.5)

Choose one

- 4 points for being off heading at the cardinal points.
- 1.5 to 3 points for the three variations in roll rate.
- No deduction because the figure was finished on heading
- 1 point for every 5° that the aircraft was off heading at the cardinal points

## Question 36

Which one of the following statements is **INCORRECT**?

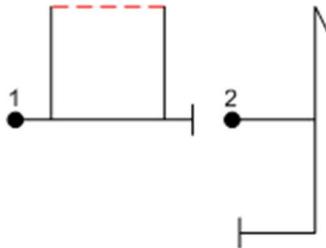
(Hint: Rules 26.8.2, 28.9.2, 28.9.4, 34.20.5.1)

Choose one

- A tailslide drawn with a dashed arc indicates that the aircraft should be inverted halfway through the pivot about the pitch axis
- Any tailslide on the X axis must be flown as drawn with respect to the official wind
- After a tailslide pivot, the aircraft may swing past vertical without penalty
- A glider flying a tailslide is only required to slide by a visible amount

## Question 37

The following excerpt from a sequence is being flown by a competitor:



After pulling to the last horizontal line of the square loop, the competitor draws a line half as long as the first vertical line, then begins the hammerhead. Assuming no other faults, the appropriate deduction is:

(Hint: Rules 27.9.4 and 28.12.2)

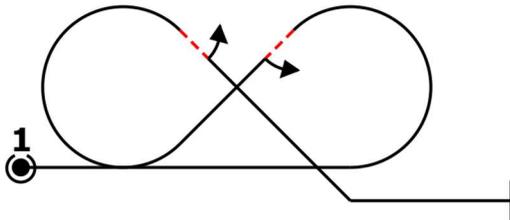
Choose one

- Grade the square loop as a hard zero (HZ) because it was not completed before the hammerhead was started
- Grade the square loop a hard zero (HZ) because it was not finished before starting the hammerhead and downgrade the hammerhead by one point for no line between figures

- Deduct two points from the square loop for the 1:2 ratio error in the last horizontal line and give the “benefit of the doubt” for completing the square loop, but deduct one (1) additional point from both the square loop and the hammerhead for "no line between"
- Deduct two points from the square loop for the 1:2 ratio error in length of the last horizontal line

## Question 38

A competitor is about to fly a Cuban-8:



Which one of the following statements is **INCORRECT**?

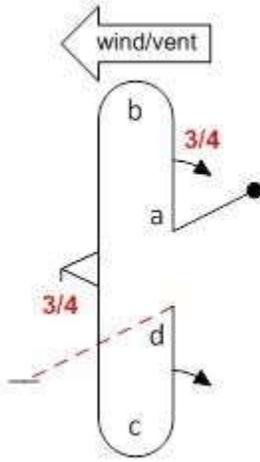
(Hint: Rules 28.16.2, 28.16.3, 34.20.6.1)

Choose one

- The two looping segments must be the same size
- The horizontal entry and exit lines must match the top and/or bottom of the looping segments if there is no more than one roll element of no more than 360° on the first or last 45° line
- The horizontal entry and exit lines need not match the top and/or bottom of the looping segments if there is more than one roll element or a single roll of more than 360° on the first or last 45° line
- The centers of the looping segments must be at the same altitude for both Power and Glider competitors

## Question 39

In this Double Humpty Bump:



(Hint: Rules 28.18.1, 26.8.2, 26.8.3)

Choose one

- Radii a, b, c, and d may all be different; the first half loop flown upwind or downwind and the second half loop flown in either direction on the Y axis with the exit direction either in the same or opposite direction as the entry
- Radii a, b, c, and d may all be different; the first half loop must be flown downwind, and the second half loop must be flown in a direction on the Y axis which results in the exit direction being the same as the entry direction
- Radius 'd' must equal 'a'; radii 'b' and 'c' may each be different; the first half loop must be flown downwind, and the second half loop flown in either direction on the Y axis at the pilot's option
- Radius 'c' must equal 'b', and but radius 'a' and 'b' may each be different. The half loops may be flown in either direction.

## Question 40

While a competitor executes a four-point roll, you see that each of the points is slightly over-rotated and the hesitation between points 2 and 3 is longer than the first hesitation. The minimum downgrade is:

(Hint: Rules 28.21.2, 28.21.3, 28.21.4)

Choose one

- 1 point
- 2 points
- 3 points
- 4 points

## Question 41

Observing a snap roll, you never see any pitch change, but the nose does yaw followed by autorotation as indicated by the conical motion of the longitudinal axis. Assuming no other faults, the proper score is:

(Hint: Rules 28.22.2, 28.22.4)

Choose one

- 0.0
- HZ
- 8.0
- 10.0

## Question 42

Which of the following is **INCORRECT**?

(Hint: Rules 28.24.2, 28.24.5, 28.24.7, 28.24.8)

Choose one

- Once the spin is established, the aircraft must maintain a constant pitch attitude until the correct amount of rotation is reached
- At the start of the spin, the aircraft must pitch, yaw, and roll simultaneously
- If you perceive the aircraft spiraling rather than autorotating throughout the entire maneuver, you **MUST** award a HZ
- At the completion of the spin, the aircraft must pitch to vertical down and align the wings with the horizon

## Question 43

Which of the following statements about Presentation marks are **CORRECT**?

(Hint: Rule 29.3)

Choose one

- Judges give a presentation grade according to the total impression of the balanced use of the aerobatic box and over all presentation of the sequence
- The competitor is not required to use all the available airspace vertically or on the X and Y axes
- It is important that Judges be apply their Presentation criteria consistently to every pilot
- All of the above

## Question 44

You are about to grade a Four Minute Free program. Which of the following is **CORRECT**?

(Hint: Rules 35.11, 35.12, 35.13)

Choose one

- There are ten grading criteria
- All of the grading criteria are subjective
- All grades must be between 0.0 and 10.0 in increments of 0.5
- All of the above

## Question 45

The official criteria for becoming an IAC Judge and maintaining currency can be found:

(Hint: Follow the links)

Choose one

- Section 214 of the IAC [Policy and Procedure Manual](#)
- The 2022 edition of the [IAC Contest Rules](#)
- [Pre-2020 editions](#) of the IAC Contest Rules

Any of the above